



# 2023 ECS Student Project Innovation Expo

Friday, May 5, 2023

*Thank you for supporting the students of  
Cal State Fullerton!*

Susan Barua, Dean  
Sang June Oh, Associate Dean

**CSUF** | COLLEGE OF  
Engineering and  
Computer Science



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## College Leadership Council

Fred L. Alexander  
John D. Britigan ('76)  
Kevin M. Carnino  
Peter M. Fiacco ('91)  
Caecilia Gotama ('82, '86)  
Laurie A. Haack ('79, '06)  
Darrell F. Jodoin, P.E. ('85)  
Howard K. Lam, S.E. ('79)  
Cathy M. Lekawa  
Henry Martinez ('75)  
Sean M. Peasley ('88)  
Mona C. Simpson ('87)  
Wayne "Tony" Girard  
Bill Ruh ('83, '84)  
Veronica Seyde ('02)  
Greg Wolff ('03, '06)  
James Ribbe ('97, '00)

## Civil & Environmental Engineering

**ASCE Steel Bridge:** Christopher Acebal, Arkilles Joshua Jr., Dr. David Naish\*

**Computation of Corrosion Initiation Time for Zeolite Based HPC and High-Quality Rebars:** Annabelle Recinos, Dr. Pratanu Ghosh\*

**Mechanically Stabilized Earth (MSE) Retaining Wall:** Elsie Romero, GeoWall, Dr. Xenia Wirth\*\*\*

**Red Hill Capital Improvement Project:** Tyler Cunard, Logan Hurtado, Jose, April, Matthew, Joaquin, Dr. Xenia Wirth, Dr. Huda Munjy

## Computer Science

**AI Coach for Video Games:** Jose Tapia, Jared De Los Santos, Alex Lu, Benjamin Yang, Michael Gilbert, Dr. Doina Bein

**Always Music:** Matthew Merrick, Aman Patel, Kyle Lee, Siddharth Chauhan, Dr. Lidia Morrison

**Android Mobile Application:** Zahid Gul, Dr. Lidia Morrison

**AR Shopping Experience:** Gabriel Warkentin, Alan Cortez, Ameena Khan, Rohan Kunchala, Vincent Diep, Dr. Kyoung Seop Shin

**Automatically Responding to Mentions of Food in Social Media Posts to Reduce Food Waste:** Justin Bui, Aditya Shah, Bryan Cortes, Dr. Anand Panangadan\*

**Automation and Deployment of Hardened Virtual Machines using VMware and Chef:** Felix Murray, Matthew Butner, Akshaya Kizhkkencherry, Katie Tran, Joshua Tamara, Sonal Sarin, Harin Khakhi, Dr. Mikhail Gofman\*\*\*

**Bag/Get:** Rohan Kunchala, Alan Cortez, Ashley Rus, Cesar Rojas, Dr. Kanika Sood

**Data Science Analysis of Malicious Advertisements and Threat Detection Automation for Cybersecurity Progress:** Sandra Nguyen, Dr. Doina Bein

**Decentralized Chat App:** Jacob Nguyen, Harrison Park, Charlie Taylor, Christian Verry, Dr. Kyoung Seop Shin\*\*

**Detection:** Daniel Currey, Cameron Batchelor, Jeric Baquiran, Kenny Dang, Michael Khuri, Dr. Lidia Morrison

**Django AES:** Edmond Tongyou, Dr. Lidia Morrison

**Free Outdoor Gym Finder:** Liam HyojunLee, Muktita Kim, Dr. Lidia Morrison

**High Frequency Trading:** Geovanny Casian, Thomas Stanton, Sergio Murguia, Wilson Tu, Rachael Johnson, Dr. Kyoung Seop Shin\*

**MetroidVania Game:** Matthew Iversen, Jason Zhu, Andrew Ghaly, James Pham, Dr. Lidia Morrison

**PositivityPost:** Jason Wong, Dr. Lidia Morrison

**Python Program to Input, Sort, View, and Store Detrital Zircon Geochronological Data in a SQL Database:** Jarrod Burges, Kathryn Metcalf, Dr. Mikhail Gofman, Dr. Kate Metcalf

**ReelMe:** Jean-Paul Lozano, Stephanie Becerra, Jose Morales, Gabriel Cohn-Richer, Dr. Kyoung Seop Shin

**SoundSnap:** Cooper Santillan, Marius Iacob, Kris Melgar Morales, Brennon Hahs, Brian Miller, Dr. Kyoung Seop Shin

**StyleSwipe:** Ashley Thorlin, Suhyr Hasan, Jin Lu, Dr. Lidia Morrison

**Time Manager Application:** Steven Burroughs, Anthony Maida, Dr. Lidia Morrison

**Universal Case Adapter:** Corey New, Liam McHugh, Claire Rhoda, Ethan Vu, Conner Pearson, Dr. Kyoung Seop Shin\*\*

## **Electrical & Computer Engineering**

**AABL Dispenser:** Binh Huynh, Alex Ortiz, Lilian Labeeb, Austin Lam, Dr. John Faller

**Assistive Gesture Glove Device:** Jorge Garcia, Saad Sharif, Andrew Elsanhuty, Tanner Huntley, Dr. John Faller

**Assistive Glasses:** Abel Desoto, Jeremy Chang, Rodney Nobles, Dr. Kiran George\*

**Automatic Waste Sorter:** Jeremy Escobar, Duy Nguyen, Andrew Takayama, Spencer Williams, Dr. Kiran George

**Dynamic Traffic Light Timing Controller with Emergency Vehicle Preemption:** Luiz Esparza, Huy Gia, Esequiel Ocampo, Oscar Ventura, Dr. John Faller

**Line Level Sound Modulation Control & Integrated Amplifier System:** Thomas Trinh, Tristan Beuman, Faraj Haddad (Tony), Luis Salazar, Dr. John Faller\*

**Mine Detector Robot:** Abdullah Ali, Mohammad Muhsen, Hamad Almunaye, Mohammad Albelbisi, Dr. John Faller

**Plant Keeper:** Luke Bachman, Gabrielle Endo, Ivan Rodriguez, Alexa Razo, Dr. Kiran George

**Robotic Vacuum Sanitizer:** Ahmad Alfudari, Ahmad Alhababi, Dr. John Faller

**Self Automated Home Leak Detection System:** Braulio Ramirez, Alfred Iliscupidez, Dustin Vuong, Hovaness Karamanian, Dr. Kiran George

**Sink N' Save:** Mark Olivas, Cory Clark, Quinton Jamora, Dr. Kiran George\*\*

**Smart Soccer Goalie:** Omar Garcia, Eduardo Lopez, Andy Liu, Arnie Mancilla, Dr. Kiran George\*

**StarGazer Blazer:** Sean Machler, Ulisses Diaz, Jonathan Hillier, Joseph Rau, Dr. John Faller

**Sub-Orbital Launch and Recovery System (SOLAR System) for Microgravity/High Altitude Experiments:** Brad Williams, Armando Martinez, Raymond Yanez, Chase Kinstler, Raymond Yanez, Charlie Budd, David Frias, Cesar Rojas, Armando Martinez, Pablo Pena, Erica Jiang, Timothy Kang, Chase Kinstler, Nico Renteria, Dr. Yoonsuk Choi\*

**The Doorman:** Edwin Baz, Gene Nguyen, Gian Cua, Dr. John Faller

**Titan AUV:** Isaiah Odunze, Connor Bartholomew, Kenneth Ayala, Anthony Ruiz, Dr. Kiran George\*\*\*

**Titan ROV:** Javier De La Cruz, Janson Law, Victor Xiao, Isaiah Cabugos, Dr. Kiran George\*\*\*

**Vending Accessibility Machine:** Eugene Pettiford, Tyra Jackson, Paul Morales, Ilia Samadi, Dr. John Faller

## **Mechanical Engineering**

**Arboretum Interactive Exhibit:** Gavin Van Horn, Daniel Marrujo, Minh Nguyen, Andrew Petelo, Shawn Ta, Dr. Jin Woo Lee

**Disney Team - Wave Mitigation:** Javier Oliveros, Kevin Dang, Minjae Kang, Charles Lewis, Armando Martinez, Pablo Pena, Megan Perez, Dr. Nina Robson\*\*

**Downtown Fullerton Tree Lighting:** Brian Delgado, Donovan Behen, Rodrigo Romero, Javier Solano, Nguyen Le, Dr. Jin Woo Lee

**Edwards Lifesciences: Development of Underwater DIC Set-Up:** Andy Le, Anthony Velasquez, Jesus Anzoategui, Arturo Ruiz, Dr. Nina Robson\*\*\*

**Food Pantry Accessibility:** Roman Grossi, Nicholas Thomas, Brandon Gonzalez, Abdulgader Aburawi, Irving Falcon, Dr. Jin Woo Lee\*

**Formula SAE:** Breanna Lopez, Abraham Curiel, Karen Rosales, Nico Banales, Richard Valadez, Jaden Doble, Nick Baehr, Anthony Massis, Adam Cameron, Kevin Delicana, Dominic Watson, David Perez, Manny Dominguez, Ryan Chang, Brett Ferguson, Grant Graden, Austin Welsh, Dr. Salvador Mayoral\*

**Hot Car Deaths:** Norishige Matsuoka, Aaron Libell, Thanh Nguyen, Evan Garcia, Zenrick Banawa, Sultan Alkhoori, Dr. Jin Woo Lee

**Mitral Valve Crease Identification and Prevention:** Samson Pham, Jerald Saddi, Aitiena Mac, Kevin Mazon, Szymon Gabriel Lao, Jason Nguyen, Dr. Jin Woo Lee\*\*\*

**Project DARE:** Broadening Universal Design and Engineering Principles: Scott Salling Karla Alvaro, Erica Jiang, Arsalan Ahmed, Marina Soliman, Dr. Sagil James\*

**Ride Vehicle Clearance Tool:** Jared Robison, Michael Gelyana, Alessandro Nova, Victor Heredia, and Bryan Alarcon, Dr. Jin Woo Lee\*

**Team CART:** Young Hong, Rogelio Rosales Rojas, Esther Rhyu, Caovin Pham, Devan Ramos, Dr. Jin Woo Lee

**Titan Aero - RC Airplane:** Crystal Cardenas, Ricardo Resendiz, Ryan Wolf, Sam Iorga, Martin Aguilar, Serop Kelkelian, Dustin Nguyen, Dr. Nina Robson

**Titan Drone:** Levant Ho, Mark Rangel, David Garcia, Christopher Santana, Aaron Santana, Valeria Meza, Giovanni Sanchez, Dr. Sagil James\*

**Titan EV:** Roberto Rios, Adam Arana, Roman Rivas, Ricardo Vargas, Rodolfo Hernandez, Chalisa Vitrella, Daryl Imperial, Dr. Sagil James\*

**Titan Green:** Joshua Wang, Troy Powell, Hadi Nassar, Phong Ngyuen, Isaac Renteria, Matt Lindwall, Mitchell Carlin, Dr. Sagil James

**Titan Racing Baja:** Austin Tran, Bryan Nguyen, William Shane, Marshal Goldbach, Carson Brenner, Evanne Tieng, Blake Rose, Michael Leathers, Daniel Gutowski, Mohammad Subhi, Noemy Sanchez, Jared Mendoza, Pedro Zepeda, Dr. Salvador Mayoral

**Titan Rocket: Astraios:** Brandon Trejo, Sam Krueger, Alec Monzon, Asiel Rosas, Mark Mendez, Nicholas Worth, Anthony Garcia, Russel De Los Reyes, Dr. Salvador Mayoral

**TitanSat:** Jeffrey Elisaldez, Mauricio Martinez, Mariah Olvera, Anthony Cortes De Gante, Michael De La Torre, Joshua Larios, Ismael Guzman Castillo, Bryan Huynh, Dr. Sagil James\*

## Multidisciplinary

**Engineering Equity: A Software Solution to Transgender Health Disparities:** Emily Crowl, Felix Murray, Kirsten Ochoa, Oscar Cisneros, Daniel Truong, Dr. Jin Woo Lee, Dr. Paul Inventado\*\*

**OpenDoors:** Stephanie Pocci, Alejandro Ramos, Katherine Chen, Nolan Delligatta, Cesar Gutierrez, Dr. Jin Woo Lee, Dr. Paul Inventado\*\*

**Titan Rover:** Alexander Huynh, Jacob Ursenbach, Aaron San Gil, Abel Mendoza, Adam Kaci, Adrian Stallman-Alvarez, Alan Blandon, Alex Candia, Alex Tran, Alexander Tran, Amro Elhawati, Andrew Lau, Angaar Hamid, Anjali Patel, Aveits Tashchyan, Azucena L. Jimenez Martinez, Brady Knowlton, Brandon Nakasako, Brandon Scales, Braulio Martinez, Brian Milian, Carter Loya, Chaney Chantipaporn, Collete Ledden, Coleman Hwang, Deiniel Jones Casta, Dilushi Perera, Divjot Singh, Ethan Marcelino, Eveline Esparza, Frederick Fascenelli, Gerardo Gutierrez, Hayden Esparza, Ian Mark Bautista, Ignacio Orozco Jr, Immanuel Sotelo, Isaiah Odunze, Jacob Ursenbach, Joann Sum, Jocelyn Marie Soriano, John Milian, Jordi, Joseph Rau, Joshua Davila, Justin Diamond, Kelvin Vo, Kelwyn Mondragon, Khang Pham, Lisandro Ruiz, Lori Ann Avila, Luis Garcia, Matt Tolmasoff, Miguel Garcia, Nathan Delos Santos, Nico, Niel, Noe Mateos, Nubia, Osiel Garcia, Oyinkansola Olayinka, Pedro Morales, Peter Tran, Preshus Dizon, Robert Hernandez, Roman Rivas, Sam Nguyen, Sean Del Castillo, Sebastian Ledesma Saucedo, Shaun Gruver, Tate Halsey, Thani Alremeithi, Tina Duong, Ulisses Diaz, Victor Tran, Vilay Inouvanh, Woo Kim, Yasser Ghazi, Youssef El Bassiouni, Dr. Nina Robson, Dr. Lidia Morrison\*

Thank you to all our  
participating students and faculty!

\*Competition Finalist \*\*Corporate Partner Project \*\*\*Competition Finalist & Corporate Partner Project





Edwards



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